



**WILDERNESS AND WATERPOWER:
HOW BANFF NATIONAL PARK BECAME
A HYDROELECTRIC STORAGE RESERVOIR**
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ISBN 978-1-55238-635-4

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Power Struggle

In a networked society, things are connected in surprising ways, often at a distance. The simple act of turning on a light switch or hopping on a streetcar can have far-reaching ramifications. The energy needs of cities usually have implications far beyond municipal borders.¹ The concentrated demands of a city effectively reorient activities in the region to serve that city's needs. Knowledge, engineering capability, financial capacity, and business acumen have to be attracted and applied to sometimes remote resources to create an integrated electrical system. Local capabilities are rarely sufficient in non-metropolitan settings, and the process of combining these disparate elements is rarely harmonious. Calgary's growing power needs over the twentieth century thus spun out a complex regional, national, and even international web of reciprocal relations that subsumed local interests in a broader net of opportunities, obligations, and conflicts.

Hydroelectric technology, capitalist enterprise, and the urban demand for electricity transformed the rivers and streams that snaked out of the eastern foothills of the Rocky Mountains from nineteenth-century transportation disappointments into valuable twentieth-century natural resources. An all-too-familiar struggle of animal spirits followed to possess, control, and exploit those resources. Calgary's quest for electricity to energize its burgeoning growth after the turn of the century engendered a struggle between four main sets of actors: the City of Calgary, an electric company, the Nakoda people, and the Government of Canada. But it was even more complicated than that. We should not confuse the descriptive utility of an abstract categorization with unanimity of purpose or goal.

Words like *city*, *company*, *people*, and *government* sound like singular, cohesive units. On close examination, in this particular but not atypical case, the unity within each category breaks down very quickly. Each of these groups was internally divided into subgroups with different material interests and outlooks.

The struggle within was sometimes as intense as the struggle between. Policy emerged from a sum of the balance of power and the differences within categories. Negotiations between the actors were thus messy, seemingly interminable, and unpredictable. The need for power roiled affairs within the city council and divided ratepayers. Bureaucrats in different departments thousands of miles away struggled in lengthy memoranda to understand the situation and come to decisions consistent with ambiguous public policy. Entrepreneurs and engineers jockeyed against one another to line up the necessary licences and contracts. The Nakoda people found themselves in a storm centre of economic development. They, too, were divided by the possibilities and the apparent dangers of surrendering their resources. Risks had to be calculated and uncertainties dealt with all around in this high-stakes game. Even nature turned out to have a surprising trick up its sleeve; power from the river would not be released without a struggle.

But in the end, two waterfalls would be subdued and silenced, their waters diverted through penstocks and turbines to provide Calgary with the electricity it demanded. An eastern corporation, a creation of Canadian high finance in its most gilded age, could, with some qualification, be said to emerge triumphant in this struggle for power. Inevitability, as we shall see, is an illusion of hindsight.

The inadequate service provided by the Calgary Water Power Company led the City of Calgary, in 1905, to open its own municipally owned thermal electric plant powered by coal from the Bankhead mine in Banff National Park. Within two years, the plant had to be doubled in size to meet the surging demand. As the city fathers contemplated the need to expand the plant even further in the near future and, at the same time, build roads, sewers, and water mains, municipal pride in owning an electric utility collided with financial necessity. Moreover, the city hoped

to build its own street railway, both a capital-intensive project on its own and a major new consumer of electric power. The new street railway would certainly overtax the capacity of even the newly expanded electric plant. How could the electricity required to drive urban growth be acquired in sufficient quality and reliability, and at the lowest price, with the city retaining control over distribution? It was a question that both inspired local businessmen and perplexed the aldermen.

Two newly arrived businessmen involved in the development of the energy-intensive cement industry, W. J. Budd and W. M. Alexander, simultaneously incorporated the Calgary Power and Transmission Company, applied to the federal government for a waterpower licence on the Bow, and asked the city council for a franchise to distribute their hydroelectric power within the city. With waterfalls thundering away upriver and knowledge of other hydroelectric developments circulating, the idea of developing these waterfalls to meet Calgary's needs had for some time been the topic of conversation and, on one occasion, of a brief investigation, but the technical, financial, and organizational requirements of such an undertaking overwhelmed local capabilities.² Hydroelectric development remained a dream until the upstart Budd-Alexander proposal in 1907 brought the practical possibility into sharper focus. The Budd-Alexander bid, however, drew immediate protest from the existing private electric utility, Calgary Water Power Company, as well as a counterbid from the Alberta Portland Cement Company, represented by a young lawyer, R. B. Bennett, which also promised to deliver hydroelectricity from the Bow but at a lower cost. Both bids were, to some degree, fictions since neither group had the licences, financing, or technical capability in place at the time. After lengthy negotiations, and despite the backbiting of rivals, city council eventually chose to deal with the less well-connected newcomers, Budd and Alexander, in two contracts, one signed in the spring of 1907 giving the Calgary Power and Transmission Company the right to distribute its power (but not electricity for lighting) to industries in the city, and a second signed in the fall of 1907 providing the company with the right to supply the municipal system with wholesale electricity for street lighting and distribution to local retail customers. With these contracts in hand,

Budd and Alexander were thus positioned to raise the necessary money and obtain the essential waterpower licence.

Initially, Budd and Alexander remained a little vague as to where on the Bow the hydroelectricity would be generated. But in December 1906, as their negotiations with the city heated up, they applied to the Department of the Interior for rights to develop the waterpower of Horseshoe Falls.³ This simple request reopened the thorny question of who “owned” the waterpower of the Bow, or rather, under what authority rights might be granted and who might benefit. Alberta had been created as a province in 1905, but the federal government retained control over its Crown lands. Furthermore, under the Indian Act, the federal government had ultimate responsibility for Indian reserves, and beyond that, the federal government had jurisdiction over navigable rivers. In theory, the federal Department of the Interior thus had threefold authority over the disposition of Bow River waterpowers since the river was deemed to be navigable, the sites were on an Indian reserve, and, even if they hadn’t been, the federal government managed Crown lands in Alberta.

The federal government exercised its jurisdiction over the water resources of the West through the North West Irrigation Act of 1894. This legislation – drafted by the redoubtable William Pearce, the western lands manager for the Department of the Interior, and based upon the water law of Australia – was intended, as its title suggests, to regulate the use of water for irrigation purposes, but it covered all other water-taking activities as well. The North West Irrigation Act explicitly rejected riparian rights as the basis of water allocation in favour of the “first in time, first in right” principle more suited to arid landscapes. Unlike irrigation, hydro power generation was not a consumptive use. Irrigation withdrew water; hydro merely used water in passing.⁴

As it turned out, Budd and Alexander were not the first persons to apply for rights to this site. In 1903, when Edmonton lawyer Frank Oliver, representing clients who wanted to build a sawmill and flour mill, asked for a licence to use the waterpower of Horseshoe Falls, he was advised that since the falls lay within the Nakoda Indian Reserve, he would first have to purchase the necessary lands from the Nakoda.⁵ Bureaucrats in the

Department of the Interior further informed Oliver, no doubt gleefully, that no waterpower licences had ever been granted on Indian reserves – a clear signal that even with a land purchase agreement, no waterpower licence would be forthcoming. Internally, the department legal officer even doubted that the Interior Department had the authority to grant a licence since the waterpower was situated on a navigable river.⁶ When the Nakoda people themselves were approached directly by the power developers, some younger band members approved of selling land for waterpower development, but Chief Chiniquay and his family disapproved of parting with such a large piece of the reserve. Several other potential developers lost interest after making initial inquiries.⁷

Looming electricity shortages in Calgary led the opportunistic CPR, in the spring of 1906, to apply for rights to Horseshoe Falls, as well as Kananaskis Falls just upstream. Officials from the Department of the Interior Lands Branch refused the request on the grounds that these waterpowers lay in what the department now considered “unnavigable waters within an Indian reserve.” Lands Branch authorities seemed to believe that the Nakoda possessed riparian rights in the falls and that they had the authority to sell the waterpower rights themselves.⁸ They would subsequently change their minds.

Following this line of legal reasoning, the Indian Affairs Branch of the Department of the Interior took over the file and began discussion with the Nakoda, employing the Reverend John McDougall of Morleyville as interlocutor. In response to McDougall’s prodding as to what terms they might demand should the CPR wish to negotiate, the Nakoda at first balked on the grounds that the railway had already surveyed the site without their permission and that sparks from passing trains had often set fires on their lands for which they had received no compensation. McDougall persisted nevertheless. In these negotiations, Indian Affairs officials instructed him to separate the issue of land sales for buildings and transmission towers from actual waterpower sales: “It is to be borne in mind in connection with the disposition of the water powers that there is serious doubt as to whether these are the property of the Indians, on account of the nature of the Bow River, and it is important that the question of the value of the

land should be determined apart from the value of the water powers.” In response, in mid-summer 1906, the Nakoda tentatively agreed that they might be willing to part with three thousand acres for ten dollars an acre, a per capita payment of twenty dollars (\$13,000), and three hundred head of cattle (\$9,000). The CPR, believing this to be too high a price to pay, walked away.⁹

Six months later, the Budd and Alexander application arrived in Ottawa. Following these earlier precedents, the Department of the Interior advised Budd and Alexander to negotiate a land purchase to accommodate their works with the Nakoda directly, but the department would have final authority over the land surrender. In a new twist, however, department lawyers now considered the possibility that the bed of the Bow, as it passed between the three parcels of land making up the Nakoda Reserve, might now belong to the recently created Province of Alberta. Not wanting to surrender this important power under ambiguous circumstances, the department nonetheless decided that it had the authority to issue an interim waterpower licence once the developers had acquired the necessary property from the Nakoda. After the works began operation, a final licence would be granted.¹⁰

When Alexander and Budd applied to the Department of Indian Affairs to purchase the necessary land, they were informed that Indian Affairs itself lacked the power to “grant land under water or permit diversions,” but that it could help out with the land purchase issue.¹¹ In a remarkably short period of time for such a complex issue, on March 12, 1907, Alexander, Budd, and the Nakoda signed an agreement for the purchase of one thousand acres of reserve land. The band – represented by its agent, T. I. Fleetham, and Chief Moses Bearspaw, Chief Peter Wesley, and Chief Jonas Two Young Man, as well as Councillors James Swampy, Amos Big Stony, John Mark, Hector Crawler, and George McLean – surrendered what they considered “gravelly land” unsuited to agriculture. The power developers obtained the land they needed for their dam, powerhouse, head works, reservoir, and transmission line (and whatever rights might appertain to it) for \$10 an acre, a one-time payment of \$3,350 (distributed as follows: \$5 per capita, \$15 for headmen and \$25 for chiefs), the purchase

of fifty brood mares, and the promise to fence the property they had attained. The land purchase and waterpower lease were considered separately as the Department of the Interior legal advisors insisted. Budd and Alexander also agreed to pay \$1,500 to the superintendent of Indian affairs annually as a water rental. An interim agreement with Indian Affairs was subsequently drafted in the name of the Calgary Power and Transmission Company.¹² Throughout these talks with hydroelectric power developers and the government, the Nakoda proved surprisingly willing to negotiate and conclude a deal, notwithstanding divisions of opinion among them. Moreover, they consciously demanded what they and their counterparties considered exacting but reasonable terms. They knew the market value of their land, and they got it.

The Native people on the site settled their differences over waterpower development, but the subterranean battle among the bureaucrats in far-off Ottawa continued unabated. The waterpower officer in the Lands Branch of the Department of the Interior, J. B. Challies, strenuously objected to not being consulted. He believed that neither the Indigenous people nor Indian Affairs had the right to lease the waterpower either under Treaty 7 or as riparian owners. They might authorize the sale of lands, he argued, but not the rights to waterpower. Challies insisted that the annual waterpower rental fee was being paid to the wrong party. His superiors agreed that the Department of the Interior alone (not Indian Affairs) had the right to issue a permit for the use of the water. Section 92 (24) of the British North America Act clearly granted the federal government jurisdiction over “Indians and lands reserved for Indians,” powers to be exercised by the superintendent general of Indian affairs.¹³ But as a result of a technicality, probably unique to the Nakoda situation, the waterpower bureaucrats may have concluded that the Bow River was not technically part of the Indian Reserve. The Nakoda reserve lands as actually surveyed and registered consisted of three separate parcels of land, two on the north side of the Bow and one on the south side. These parcels, as spelled out in the official documents and drawn on the surveyors’ maps, were described as running from specified points in the interior to the banks of the Bow, not to the river’s mid-point. This seemed to imply that the Nakoda were thus not



STONEY ELDERS, CIRCA 1908: (L. TO R.) JAMES SWAMPY, HECTOR CRAWLER, JONAS TWO YOUNG MAN, JOHN BEARSPAW, PETER WESLEY, AMOS BIG STONEY, JOHN MARK (GLENBOW ARCHIVES, NA-1263-13).

riparian owners, in which case administration rights to the riverbed and waterpower may have been thought to lie with the Interior Department rather than Indian Affairs. In any event, the waterpower bureaucrats in the Lands Branch (who were in the process of seeking their own divisional designation as the Water Power Branch) asserted their authority by demanding that the lease should stipulate the conditions under which the power might be used, the dates of the term, the obligations to continuous development owed by the lessee, the authority of government regulatory oversight of rates, and the conditions under which the licence would be suspended and the property recovered.¹⁴

By the end of 1907, Budd and Alexander had in hand important power contracts with the City of Calgary and the promise of a waterpower lease to Horseshoe Falls, subject to their agreement. But they could not command all of the financial resources or entrepreneurial skills required to complete the project. They retained professional engineers from the East to draw up detailed plans for a dam and powerhouse with a working head of seventy-four feet that would permit the initial development of about six thousand

horsepower annually at a cost of some \$600,000.¹⁵ Yet, notwithstanding the contracts with the city and an agreement to sell bulk power to a nearby cement company, Budd and Alexander proved unable to raise such sums, and eventually, in 1909, with the deadline for commencing power supply to Calgary closing in, they surrendered control of Calgary Power and Transmission Company to their principal creditors: their engineers, C. B. Smith and W. G. Chace. But neither could the engineers raise the money required to finance a hydroelectric project of this size. Smith, therefore, immediately set about flogging this western property among the community of eastern Canadian hydroelectric financiers; he found an eager buyer in the Royal Securities Corporation of Montreal.¹⁶

Enter William Max Aitken, the impish wizard behind Royal Securities Corporation. Though not yet thirty years of age, Max Aitken had already ascended the heights of Canadian finance capitalism, earning a reputation along the way as one of its sharpest, most aggressive, and slightly slippery company promoters. As a personality, Max Aitken impressed everyone he met with an indomitable will to succeed, a salesman's counter-jumping enthusiasm, a rare zest for life, and a relentless focus on the business at hand. For example, he turned his Cuban honeymoon into a scouting trip for street railway prospects. His youthful appearance, raffish manner, and arresting physical appearance invariably drew comment. His round head was, by universal agreement, far too large for his body. A huge Cheshire cat grin permanently creased his cheeks; outlandish ears, a tight collar, and a porkpie hat perched casually atop his head did nothing to diminish first impressions of a boyish mischief maker. Nonetheless, it was his success in the cut-throat business world of company promotion and mergers that impressed his financial superiors, made him indispensable, and stirred mixed emotions of admiration, wariness, and betrayal among those with whom he did business. It turned out he knew a thing or two about Calgary.

Born the fifth of what would be nine children to the Reverend and Mrs. William Aitken in 1879, the young Max fled the patriarchal rectitude of the Presbyterian manse and its preordained career in banking or law. The truant of Newcastle, New Brunswick, set out for the far West, following his youthful idol and mentor, R. B. Bennett, to Calgary in 1898 to

make his fortune peddling life insurance, running a bowling alley, selling real estate, and delivering meat. Dissipation and disappointment delivered him back home to Atlantic Canada – contrite, more sober, but all the more determined to make his mark. It was at this low point in 1902 that Aitken somehow scraped an acquaintance with John F. Stairs, the dean of Halifax finance and president of Royal Securities Corporation. Stairs put him to work raising money for the steel companies and utilities that he and his friends controlled. Max soon made himself indispensable. In this environment, he developed two remarkable talents: company promotion and securities salesmanship. Mentored by the Halifax financial community, Stairs’s protegee launched or rebuilt street railways and electric companies in second- and third-tier communities in Trinidad, British Guiana, Cuba, and Puerto Rico. Just as important, he developed an enterprising sales network to unload the securities generated by these company promotions on the doctors, lawyers, ships’ captains, merchants, widows, and orphans of Maritime Canada.

After Stairs’s sudden death in 1905, Max Aitken emerged as the guiding spirit of Royal Securities, turning it into an investment bank specializing in high-risk but also high-return enterprises that, for the most part, he controlled. By 1907, the Maritimes had begun to be too small for his ambition, and the region lacked the financial resources he needed for his ever more ambitious schemes. Moreover, the backbiting and squeamishness of his more staid and established associates, who perhaps resented his spectacular success, curbed his style. It was a messy divorce. But in the end, Max Aitken decamped, as the undisputed proprietor of Royal Securities, to Montreal, where he would be closer to the real action in company promotion, the A-team of Canadian capitalism, and the really big piles of money.¹⁷

Royal Securities, as an investment bank, needed a continuous stream of company promotions, mergers, and reorganizations. It was Max Aitken’s responsibility to put together these deals and negotiate the purchase terms and the capital structure, whereupon his sales team would then have to flog the “stuff” – the insiders’ argot for the various bonds, stock, and preferred shares generated – to institutions and private investors. Max Aitken



MAX AITKEN, CIRCA 1905
(NOTMAN ARCHIVE, MCCORD
MUSEUM, II-156537.1).

had to make rain. He was thus on the constant lookout for new opportunities – either new companies to promote, like the Western Canada Power Company in Vancouver, or, his preferred choice, “established and going concerns with good earnings which we can profitably capitalize” (read: load up with debt).

Recalling his not-too-distant youth, Max Aitken had already expressed interest in the prospects of the Calgary area. In 1908, he had suggested that his fellow New Brunswicker, Calgary lawyer R. B. Bennett, should “take up” the electrical situation in the Alberta city to see whether the two private

companies might be merged. Bennett, having long been involved with the situation, urged him not to get involved. The same year, Aitken dispatched his brother to see whether he could obtain a street railway franchise in Calgary on favourable terms, his thinking being that he might work backwards from the electric demands of the street railway to acquire and merge the two electric companies into an integrated utility with bond sales and bonus stock all round. City council drove too hard a bargain, and besides, seemed determined to build its own street railway system. Max Aitken retreated from the encounter complaining bitterly to his brother: “I think the council is so socialistic that a satisfactory proposition cannot be obtained at the present time.” His brother agreed, adding that he considered the councillors “a bunch of grafters of the meanest kind.”¹⁸ These negotiations also brought him into contact with C. B. Smith, who was struggling to make the Calgary Power and Transmission Company a going concern. Aitken initially dismissed all thought of taking over that company because he considered the contracts with the city disadvantageous to the company.

His Calgary excursion had also brought him into contact with Toronto financier E. R. Wood, the promoter of the Alberta Portland Cement Company, which had rights to the undeveloped Radnor hydroelectric site on the Bow near the confluence with the Ghost River. The two eastern financiers bruted about the possibilities of a grand merger of electric interest in the region during 1908, but the collapse of the street railway talks with the city put paid to that scheme for the time being.

The following spring, however, Max Aitken changed his mind after spotting a desirable-looking waterpower site from the CPR train en route to his hydroelectric development in British Columbia.¹⁹ That summer, as he was coordinating the merger of all the leading cement producers in the country into the Canada Cement Company, Aitken realized that a power development in the Bow valley would fit neatly into his plans. First, if the merger were to proceed, only the manufacturing assets of Alberta Portland Cement would be valued. That meant the company would have to dispose of its Radnor hydroelectric site before the deal went through. Second, although Portland cement, a new product made from processed crushed limestone, was cheaper to produce than the old marl cement excavated from lakebeds, it required vast amounts of electricity, especially to crush the stone. A new company could serve the power needs of the Alberta Portland Cement Company. A Calgary Power and Transmission takeover would include the contract to supply the Portland cement company at Exshaw, a floundering property presided over by Sir Sanford Fleming and an American buccaneering entrepreneur, James Ivor, who also intended to be included in the Canada Cement merger. These two industrial power contracts and the Radnor site – combined with the Horseshoe Falls development, rights to upstream hydroelectric sites, and a contract to supply power to the Calgary municipal electric utility – made a Calgary deal look much more interesting to the mercurial Max.

At the height of the three-ring-circus Canada Cement merger negotiations, Aitken met with C. B. Smith and E. R. Wood in September 1909, and in two days, they reached an agreement. A new company would be created to acquire Calgary Power and Transmission Company and the waterpower rights from Alberta Portland Cement at Radnor. Aitken

bought the company from Smith and Chace for \$70,000 in cash and about \$300,000 in stock in the new company, and Smith and Chace continued on as engineer-contractors of the Horseshoe project. The new company also assumed the Radnor site from Alberta Portland Cement as part of the cement merger deal and, along with it, a contract to provide electricity to this subsidiary of the merged entity. Aitken, of course, managed the financing of the new company, renamed Calgary Power. Royal Securities underwrote \$3 million par value worth of its bonds at 85 per cent of their face value and received a generous bonus of common stock, probably in the range of a nominal \$1.85 million, which, after taking his promoter's profits, Aitken aimed to resell to Royal Securities' clientele.²⁰ It seemed on the face of it a neat side deal, a tasty snack en route to the much larger Canada Cement feast. In this flurry of deals, a financial magician like Max Aitken could make things even sweeter (for himself) without anyone being the wiser. One of Aitken's minions, in examining the terms of the agreement, noted in wonder to Max that Royal Securities was owed a further \$300,000 stock in Calgary Power as a result of the inclusion of the Radnor property in the deal: "I wish to bring to your attention that Royal Securities will be in effect receiving this \$300,000 in stock for nothing."²¹ Imagine that.

In a deal of this sort, the revenue from the bond sales would effectively purchase the properties and finish construction. The bonds themselves would be taken up by a promotional syndicate at the discounted price making payments in instalments. After the promoter had taken his cut of the common stock and payments had been made to the principals of the companies being acquired, the remainder would be parcelled out to the bondholders as a bonus, the proportion of stock to bonds varying with distance from the inner circle of the syndicate, although there were risks associated with having too many unconstrained participants. Eventually, the bonds and the stock would be resold at a higher price and with much less bonus stock as the company progressed. Meanwhile, the syndicate members would agree to pool their stock for a period, designating one of their number a market maker who would buy and sell from the market in such a way as to create the illusion of a stable and promising investment.

Then, the syndicate members would cautiously unload their high-yielding bonds and now monetized common stock to what they called “real investors” who would hold the securities and not dump them onto the market at the first whiff of trouble. The inner circle of the investment syndicate could then realize their profits on the transaction, although some would wish to retain significant holdings in a particularly good going concern. But for the deal to be successful, the bonds would have to pay interest and the stock would have to earn its face value through growth and sound management.

This refinancing allowed construction of Calgary Power’s Horseshoe Falls project to forge ahead following C. B. Smith’s design and under his supervision. However, for the math to work on the Calgary Power deal, Max Aitken believed that the company would have to sell a great deal more power in Calgary and on better terms than the existing two contracts with the city. He instructed R. B. Bennett, a director of the company and its local fixer, to wring a new contract out of city council for a longer period, in greater quantities but at a lower price than previously agreed. Meanwhile, as Bennett grappled with what turned out to be a Sisyphean task, Aitken, a promoter and financier rather than a utility manager, turned over direction of the company to Herbert S. Holt, well known as the president of Montreal Light, Heat, and Power. Aitken, preoccupied with other deals, gradually withdrew from company affairs, although he did take a lively interest in the negotiation of a new contract with the city.

Just when the company’s future looked set, serious problems arose. In all the investigation of power sites in the Bow valley, nobody appears to have bothered to take systematic and detailed streamflow measurements. C. B. Smith had simply contented himself with observing that “a valuable feature of the water supply in this river is the fact that all the head waters above the power site are situated within the Rocky Mountain[s National] Park, ... which will be very slowly deforested if at all. The future constant flow of the river is thus ensured.”²² What that ignored, of course, was that these headwaters flowed out of mountains locked in ice half the year. Like all glacial streams, the volume of water in the Bow varied dramatically from season to season. As the snows melted in the spring, there was a spate



HORSESHOE FALLS POWER PLANT UNDER CONSTRUCTION, 1911 (COMMISSION OF CONSERVATION).

followed by a steady run throughout the summer, but as the winter freeze-up took hold at higher altitudes, the flow diminished steadily in the river's gravel bed until it was little more than a trickle. Visitors usually saw the waterfalls in summer, during peak flow. The photographs in the White and Dennis inventory of waterpowers, for example, showed Bow, Kananaskis, and Horseshoe Falls foaming white in impressive early summer display. In mid-winter, these waterfalls would present a more timid aspect.

Flow variation on this scale was a critical problem for a run-of-the-river hydroelectric station with only a small amount of water storage. Power production was measured on a twelve-month basis, and continuous output was a critical factor, especially for a city like Calgary, where cold, dark winters created high peak loads for electric lighting. Another engineer retained by Max Aitken in the fall of 1909 had warned that gauging of the Bow had not been carefully done to date and that it was well known that the flow was low at certain times of the year.²³ Just how critical the problem was became obvious in dramatic fashion during the first year of construction at Horseshoe Falls. In February and March 1910, the river practically

dried up altogether, and then in June, it burst through the cofferdams and undermined the footings of the main dam. As a result, the spillways had to be redesigned to handle the late spring runoff, and the winter horsepower rating of the plant was revised downward. The company did not even have enough capacity to provide all the power already contracted for, much less to provide for future expansion. The directors of Calgary Power were so angered that they fired C. B. Smith as the project engineer on account of negligence and incompetence.²⁴

Detailed hydrographic studies over the next few years revealed the unpleasant truth. Smith had estimated that the absolute minimum flow in the most extreme winter conditions would be 960 cubic feet per second (cfs) with an average flow of about 1,600 cfs, permitting annual average production of 10,000 hp. Federal government engineers discovered that the Bow at the mouth of the Kananaskis River just above the dam carried an average of only 725 cfs in March and 880 in April. During the second decade of the century, the highest flows ever recorded during these months were 1,080 and 1,340 cfs, respectively, in 1916, while in the dry winter of 1920, the river trickled along at only 550 and 530 cfs in March and April.²⁵

With the company in these vulnerable circumstances, R. B. Bennett faced serious opposition in his attempt to negotiate a new contract with the city. With its expanded municipal steam power plant and growing distribution system, city council thought of itself as a competitor in the electricity business. Indeed some members of council urged the city to build a hydroelectric station of its own on the Bow. Once Bennett gave up on the idea of entering the city as an operating company and stringing the company's own wires alongside the two other sets already on the street, and began talking about supplying power wholesale to the municipal utility, city council seemed prepared to talk but remained wary. After the well-publicized problems with the Horseshoe project, councilors harboured quite justified apprehension about the quantity of power the company might deliver and its all-season reliability. Skepticism even led city council to encourage a locally promoted hydroelectric scheme on the upper Elbow River during this period. This distracting sideshow preoccupied city officials and even led the city to apply for and receive a

waterpower licence from the Department of the Interior on the Elbow. Bennett thus had to face off against another hydroelectric enterprise as well as the city's municipal utility. Although this combined public-private hydroelectric project on the Elbow never came to fruition, it served its purpose as a stalking horse in the Calgary Power negotiations.

On the one hand, although Bennett was on good terms with the mayor and councillors, and could muster influential friends in the business community, city council members remained obdurate about negotiating a new contract, concerned as they were about the dependability of the company's power and protective as they were of their own electric utility. On the other hand, the city needed more power, even with a relocation and expansion of its steam plant in Victoria Park. Councillors could not be seen to be denying customers cheaper electricity by favouring their own pet project. So, after much toing and froing, the city and Bennett eventually cut a deal in August 1910, but not on terms Max Aitken would approve. The city granted the company a mere one-year contract for 2,000 hp at thirty dollars per horsepower, additional power to be supplied in 500 hp increments and at progressively lower prices. At 10,000 hp, the price would fall to twenty-four dollars. The new contract was for one year and could be renewed, but it gave no security to the company and it left the city open to either supplying Calgary's growing power demand from its own expanded plant or buying more power from Calgary Power when the need arose.²⁶ Max Aitken had met his match in the Calgary city council, but at least the company had its foot in the door.

For all of these reasons, the first delivery of Bow River hydroelectricity to Calgary from Calgary Power's Horseshoe Falls station on Sunday, May 21, 1911, turned out to be a rather low-key affair. Some municipal employees woke the mayor at 8:30 in the morning and drove him to the nondescript East Calgary substation, where he simply inserted a plug on a switchboard. "There was no demonstration of any kind," the Calgary-based *Weekly Albertan* commented, "no cheering crowd to witness this interesting event."²⁷

There was no cheering in Montreal either, where the management feared the company would not be able to pay even its fixed charges,



HORSESHOE FALLS DAM AND POWERHOUSE (GLENBOW ARCHIVES, NA-3496-14).



HORSESHOE FALLS POWER STATION (GLENBOW ARCHIVES, PD-365-1-93).

much less earn a profit. The Calgary Power promotion had not gone off as planned. Expensive construction overruns and delays complicated the financing, as did the failure to obtain a long-term contract with the city. A casual observer would have concluded that Max Aitken's second encounter with Calgary proved more successful and profitable than the first: he built a power company rather than a bowling alley. But to Max, both encounters ended in bitter disappointment. Burdened with an unco-operative city council and a rogue river, Calgary Power would not be the financial success that the man known as "the money spinner" had imagined.²⁸

But by the time the company actually went into operation, Max Aitken was long gone and the problems were for others to fix. His bruising manner in putting together three of Canada's largest mergers in the cement, steel, and railway equipment industries had won him few friends and earned him many enemies. Even his application to the Mount Royal Club was blackballed – "pilled," in the local parlance. He made money for some powerful people, not the least himself, but his ruthless treatment of Sir Sanford Fleming – forcing his company into bankruptcy to get fire-sale terms for inclusion in the merger – deeply offended those same people.²⁹ In any event, Montreal, and even Canada, had become too small for Max Aitken's ambition. By the time the turbines of Calgary Power started spinning in the spring of 1911, Max Aitken, now just a shareholder with a sentimental interest in the property, had set himself up in London, England, to open a new phase in his life.³⁰

